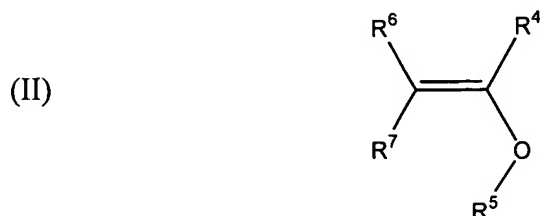


Claim 1 of the application is drawn toward a copolymer prepared by copolymerization of a first monomer and a second monomer, where the second monomer has the structure of formula (II)



wherein:

R<sup>4</sup> is H, C<sub>1-12</sub> alkyl, C<sub>3-15</sub> alicyclic, or fluorinated C<sub>3-15</sub> alicyclic,

R<sup>5</sup> is C<sub>1-12</sub> alkyl, C<sub>1-12</sub> alkyl substituted with 1-12 fluorine atoms and 0-2 hydroxyl groups, or C<sub>3-15</sub> alicyclic, or R<sup>4</sup> and R<sup>5</sup> together form a five-, six-, or seven-membered ring,

R<sup>6</sup> is H, C<sub>1-12</sub> alkyl, or C<sub>1-12</sub> fluoroalkyl, or R<sup>4</sup> and R<sup>6</sup> together form a five-, six-, or seven-membered ring, and

R<sup>7</sup> is H, C<sub>1-12</sub> alkyl, or C<sub>1-12</sub> fluoroalkyl, or R<sup>7</sup> and R<sup>5</sup> together represent -X-(CR<sup>8</sup>R<sup>9</sup>)<sub>n</sub>-, in which case R<sup>4</sup> and R<sup>6</sup> are H, X is O or CH<sub>2</sub>, n is 1 or 2, R<sup>8</sup> and R<sup>9</sup> are H, C<sub>1-12</sub> alkyl, or C<sub>1-12</sub> fluoroalkyl, or together form an oxo moiety (=O), with the proviso that when R<sup>8</sup> and R<sup>9</sup> together form =O, n is 1.

Furthermore, claim 1 requires that: (1) any of R<sup>1</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup>, R<sup>6</sup>, and R<sup>7</sup> may be further substituted with an inert, nonhydrogen substituent; (2) when R<sup>5</sup> is C<sub>1-12</sub> alkyl, at least one of R<sup>4</sup>, R<sup>6</sup> and R<sup>7</sup> is other than hydrogen; and (3) at least one of the first monomer and the second monomer contains one or more fluorine atoms.

Koishi is drawn toward certain fluorine-containing copolymers prepared by radical copolymerization of an  $\alpha$ -trifluoromethylacrylate with a vinyl ether (see abstract). The vinyl ethers of Koishi have the structure of formula (II-Koishi)



wherein R' is a hydrocarbon-derived alkyl group. Examples of vinyl ethers provided in the abstract are vinyl ethyl ether and vinyl 2-chloroethyl ether. Therefore, the vinyl ethers described in the abstract of Koishi are compounds of formula II of the application wherein R<sup>4</sup>, R<sup>6</sup>, and R<sup>7</sup> are each H. The abstract of Koishi does not mention or suggest substituting the vinyl-carbons of the vinyl ether.

The Action under reply states that “[w]hile the reference prefers the formula of formula II wherein the substituents in the instant positions R4, R6, and R7 are all hydrogen, based upon a spot translation by a PTO staff member, it appears that the reference does teach the equivalence of a H and a F atom or alkyl group.” As a representative of the applicant, I contacted the Examiner by telephone on 7 March 2006 (after unsuccessfully attempting to contact the Examiner on 2 March and 6 March) and requested that the Examiner identify the location in the disclosure of Koishi that teaches “the equivalence of a H and a F atom or alkyl group.” The Examiner was not able to provide this information. However, the Examiner stated that she would have the spot translation repeated and that she would contact me by telephone on 9 March 2006 to relay the results. On 9 March 2006, I received a telephone call from the Examiner, in which she stated that the second spot translation was “different” from the spot translation relied upon for the rejections in the Action. The Examiner stated that, according to the second spot translation, Koishi teaches that H, alkyl, and fluorine are acceptable *for the R groups* (not, as previously asserted, for the polymer backbone or for the vinyl-carbons of the vinyl ether). Because of the discrepancies between the first and second spot translations, and in an attempt to clarify the teachings of Koishi, the Examiner submitted Koishi to be fully translated by the USPTO, agreeing to contact applicant’s counsel once the translation was available.

I contacted the Examiner on 6 April 2006, and was informed that the translation of Koishi was not yet available. The Examiner contacted me by telephone on 11 April 2006, at which time a full translation was still not available. However, the Examiner indicated that, depending upon the English translation of Koishi, she may be favorably inclined toward our argument that the rejection based on Koishi is not valid and should be withdrawn.

It is, in fact, evident that Koishi does not teach the equivalence of H, fluorine, and alkyl at the vinyl ether positions that are equivalent to R<sup>4</sup>, R<sup>6</sup>, and R<sup>7</sup> of formula II in the present application. The inventor received his B.S., M.S., and Ph.D. degrees in chemistry from the University of Tokyo and is therefore well positioned to comment on the contents of the Koishi

reference. He has reviewed Koishi carefully and found that nowhere in the disclosure of Koishi is it suggested that the H groups attached to the vinyl carbons might be replaced with fluorine or alkyl groups. The general structure (II-Koishi) clearly defines the vinyl ether compounds that are disclosed in Koishi; the vinyl carbons of the vinyl ether contain only H groups. Nowhere in the reference is an attempt made to broaden this definition.

In light of the absence of a full translation of Koishi, as well as the differences between the first and second spot translations, and the teachings of Koishi as interpreted by the inventor, Koishi cannot be relied upon for the basis of the rejection set forth in the Action. The Examiner has not provided any reason for one of ordinary skill in the art to prepare the material of Koishi choosing to replace a hydrogen atom with a substituent such as F or alkyl. Accordingly, the Examiner has failed to provide a *prima facie* case of obviousness for modifying Koishi to arrive at the invention of the claims of the application. Applicant therefore respectfully requests that the rejection be reconsidered and withdrawn.

Regarding the rejection over Zampini in view of Koishi, the Examiner states that “[i]t would have been obvious to one of ordinary skill in the art to prepare the material of Zampini et al choosing to employ the known monomers of Koishi et al as the fluorine-containing methacrylate/vinyl ether monomers with reasonable expectation of achieving a material which may form a pattern having high resolution.” However, as stated above, and as discussed in detail on pages 11-12 of applicant’s Amendment dated October 19, 2005, Koishi *does not* teach vinyl ether monomers that have the substitution pattern required by the claims of the application. Therefore, one of ordinary skill in the art would not have found motivation in Koishi for modifying the teachings of Zampini in order to arrive at the invention described in the claims of the application.